

apulinum. On speaking of it to a naturalist, Mr. Hales, he said it was originally brought to Ridgewood from the South by a Mr. Fuller, who had an experimental garden. It would not grow on his ground, so he gave some to Mr. Hales, who has a reclaimed meadow for a garden, and there the plant was much more beautiful—a large clump, twenty-five years old, fully four feet around and about that high, while what I found was only about a foot to a foot and a half high and not so thrifty. This same Mr. Fuller gave some to the people who own this lot and it has grown in their garden. Now this lot is about a quarter of a mile from this garden where the original plant was, so it has spread by means of the wind or birds. The odd fact to me is, that though it grows in “damp soil” it has not spread from Mr. Hale’s garden, but from the latter place which is very high and dry, this part of Ridgewood being one of the highest parts of Bergen County.

LYCOPODIUM TRISTACHYUM

BY E. J. HILL

When Prof. Lloyd’s article “Two hitherto confused Species of *Lycopodium*” (Bull. Torr. Club, 27: 559. 1899) appeared, my specimens, labeled *L. complanatum* L., were examined with a view to test them by the characters mentioned and several of them were found to agree with the description of *L. tristachyum* Pursh (*L. Chamaecyparissus* A. Braun). Some had already been designated by this name as varietal, and their peculiarities noticed. One of these was the burial of the rhizome from three to nine centimeters below the surface of the ground, considerable digging often being required to uncover them. They have all been found in sandy soil, in woods of pine or mixed pine and oak. The rhizomes and the basal parts of the aërial shoots are pale, being blanched by exclusion of the light. The ultimate branches are numerous and crowded, commonly narrower and much less

limited to one plane than those of *L. complanatum*. The branches by their abundance make a very heavy top. Mounted specimens generally have a heaped appearance, the branches lying upon each other in several layers, while specimens of *L. complanatum* are nearly or quite flat. The time of collecting has been August and October. The bracteal leaves and sporangia have been found to be yellow as early as August 2d, and the spores beginning to be shed. In October the sporangia had all become empty. One obtained at Ha! Ha! Bay, Quebec, Can., August 25th, was less mature, the sporangia closed and the bracteal leaves but slightly yellowed. Others collected at the same time were shedding their spores. Climatic reasons will probably account for the later ripening. In the same region the Early Blueberry (*Vaccinium Pennsylvanicum*) and the Canada Blueberry (*V. Canadense*) were found to be contemporary in the ripening of their fruit. They grew intermingled, the fruit of both equally abundant on the bushes. In the latitude of Chicago the former begins to ripen the last of June; the latter, occurring a little farther north, ripens in August.

The following are the stations and times of collecting the specimens of *L. tristachyum* Pursh, in my possession: Fruitport, Mich., August 2, 1872; Indian River, Mich., August 3, 1878; Miller, Ind., October 2, 1881; Ha! Ha! Bay, Quebec, August 25, 1888. The three former localities are contiguous to Lake Michigan, Miller being in the dune region at the head of the lake, Indian River in a dune locality near its northern end, and Fruitport midway on the eastern shore. From all I recall about the Lycopodiums I had identified as *L. complanatum*, but did not take specimens for preservation, I feel quite safe in stating from the impression its habit has left in memory that *L. tristachyum* is the more common in places where I have met with the two species in the upper lake region. Those growing at Miller, Ind., do not seem to fruit very freely, the shoots being commonly found barren.